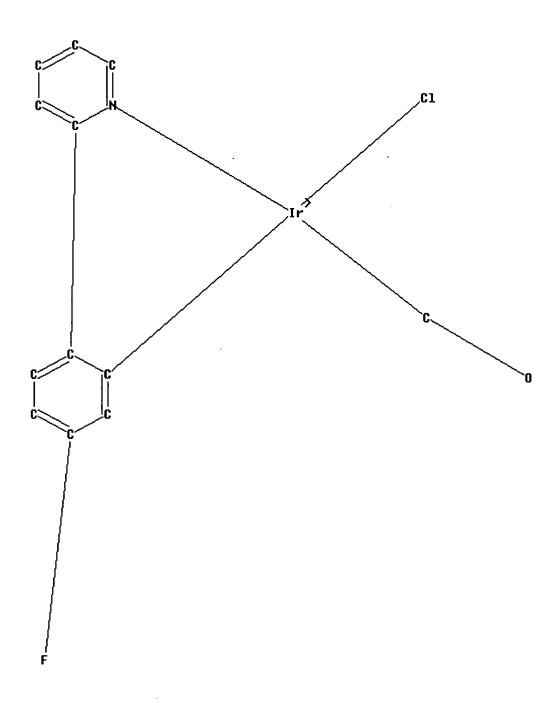
Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	51	trifluoromethyl adj2 phosphine	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/26 09:11
L2	27	(bis di) adj trifluoromethyl adj2 phosphine	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/26 09:13
L3	1	(bis di) adj trifluoromethylphenyl adj2 phosphine	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/26 09:13
L4	25	(bis di) adj trifluoromethyl adj phenyl adj2 phosphine	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/26 09:16
L5	43158	fluoroalkyl perfluoroalkyl trifluoromethyl and (luminescent electroluminescent)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/26 09:20
L6	1711	(fluoroalkyl perfluoroalkyl trifluoromethyl) and (luminescent electroluminescent)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/26 09:20
L7	. 37	(fluoroalkyl perfluoroalkyl trifluoromethyl) near12 (preferred solubility improv\$5 better shorter emission) and (luminescent electroluminescent)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/26 09:21
L11	2	"20020048689"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/26 11:02
S1	3	"20020182441"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/26 11:02

			T	[	<u> </u>	<u></u>
S2	1	2000wo-us32511	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/25 16:58
S3	2	2001wo-JP10487	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/25 15:43
S4	3	"20030068526"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/25 16:57
S5 .		2000WO-US70655	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/25 16:58
S6	0	1999WO-US70655	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/25 16:58
S7 ·	0	2000wo-us70655	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/25 16:59
S8	1	2000wo-us12946	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/25 17:37
S9	2	"20030054198"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/25 18:18
S10	1026	trifluoromethylpyridine	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/25 18:18
S11	30	fluorophenyl adj2 trifluoromethylpyridine	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/25 18:19

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L2
     FILE 'CAPLUS, MARPAT, MARPATPREV, REGISTRY' ENTERED AT 14:20:50 ON 06 JUN
     2005
L3
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             0 SEA SSS SAM L1
L4
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     FILE 'HCAPLUS' ENTERED AT 14:21:44 ON 06 JUN 2005
L_5
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               SEL PLU=ON L5 1- RN: 42 TERMS
L6
L7
                S L6
          6414
rs
             1 S
                     L5 AND L7
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     FILE 'REGISTRY' ENTERED AT 14:24:52 ON 06 JUN 2005
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L9
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             1 S
                     PYRIDINE/CN
L10
               E PHENYLPYRIDINE/CN
L11
             1 S PHENYLPYRIDINE/CN
L12
               STRUCTURE UPLOADED
L13
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          3605 SEA SSS FUL L12
L14
            0 S L14 AND IR/ELS
L15
          600 S L14 AND CL/ELS
2841 S L14 AND O/ELS
0 S L14 AND COMPLEX
L16
L17
L18
           213 S IR/MF
L19
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L20
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           9 S (L16 OR L17) AND (L19 OR IRIDIUM)
40 S L20 NOT L21
L21
L22
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CAS/STN FILE 'REGISTRY' ENTERED AT 14:20:01 ON 06 JUN 2005

## Structure in Set L1



# Structure in Set L12

L22 ANSWER 29 OF 40 HCAPLUS COPYRIGHT ACS on STN

AN 2003:155115 HCAPLUS

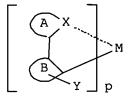
DN 138:212530

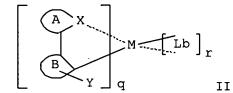
ED Entered STN: 28 Feb 2003

TI Luminescent organometallic compound and light emitting device

IN Fujii. Hirovuki

IN	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
ΡI	US 2003040627	A1	20030227	US 2002-170396	20020614
	JP 2004059433	A2	20040226	JP 2002-172832	20020613
	CN 1397559	A	20030219	CN 2002-124374	20020617
PRAI	JP 2001-182507	A	20010615		
	JP 2002-165353	Α	20020606		
os	MARPAT 138:212530				





AB Luminescent organometallic compds. are described by the general formulas I and II (A and B represent ring structures, M = a metal atom; X = a hetero atom other than C or H; Y = .gtoreq.1 electron-attracting group connecting to ring structure B; Lb = a unidentate or multidentate ligand; and p, q and r = pos. integers). Light-emitting devices with emitting layers incorporating the compds. are also described.

IT 10025-83-9, Iridium chloride 13569-63-6, Rhenium chloride

15635-87-7 **58861-53-3** 500229-85-6 500229-86-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(luminescent organometallic compds. with heteroaryl deriv. ligands and light-emitting devices using them)

IT 500295-47-6

RL: DEV (Device component use); USES (Uses)

(luminescent organometallic compds. with heteroaryl deriv. ligands and light-emitting devices using them)

IT 58861-53-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(luminescent organometallic compds. with heteroaryl deriv. ligands and light-emitting devices using them)

RN 58861-53-3 HCAPLUS

CN Pyridine, 2-(4-fluorophenyl)- (9CI) (CA INDEX NAME)

$$\mathbb{F}^{\mathbb{N}}$$

p. 28

(Chem.Form.49)

[0055] Chemical Formula 51: bis(7-fluorobenzo[h] quinolinato-N,C<sup>10</sup>)acetylacetonato iridium(III)

[0056] Chemical Formula 52: bis(2-(4-fluoropheyl-1-yl)pyridinato-N,C²) platinum(II)

[0057] Chemical Formula 53: tris(2-(5-fluorophenyl-1-yl)pyridinato-N,C<sup>2</sup>) gold(III)

[0058] Chemical Formula 54: tris(2-(4-fluorophenyl-1-yl)benzo[c]quinolinato-N,C<sup>2</sup>) iridium(III)

[0059] Chemical Formula 55: tris(2-(4-cyanophenyl-1-yl)quinolinato-N,C<sup>2</sup>) iridium (III)

[0060] Chemical Formula 56: bis(2-(4-cyanophenyl-1-yl)benzothiazolato-N,C<sup>2</sup>)acetylacetonato iridium(III)

(Chem.Form.45)

(Chem.Form.46)

(Chem.Form.47)

(Chem.Form.48)

-continued

(Chem.Form.50)

(Chem.Form.51)

(Chem.Form.52)

(Chem.Form.53)

Page 2

L22 ANSWER 40 OF 40 HCAPLUS COPYRIGHT ACS on STN

AN 2001:581384 HCAPLUS

DN 135:349716

ED Entered STN: 10 Aug 2001

- TI New, efficient electroluminescent materials based on organometallic Ir complexes
- AU Grushin, Vladimir V.; Herron, Norman; LeCloux, Daniel D.; Marshall, William J.; Petrov, Viacheslav A.; Wang, Ying
- CS Central Research and Development, Experiment Station, E. I. DuPont de Nemours and Co., Inc., Wilmington, DE, 19880-0328, USA
- SO Chemical Communications (Cambridge, United Kingdom) (2001), (16), 1494-1495

CODEN: CHCOFS; ISSN: 1359-7345

AB Reaction of aq. IrCl3 with fluorinated 2-arylpyridines in the presence of AgO2CCF3 afforded fifteen fac-tris-cyclometalated arylpyridine Ir complexes (e.g., I) exhibiting excellent processing and electroluminescent properties which can be fine-tuned via systematic control of the nature and position of the substituents on the arom. rings. Single-crystal x-ray structures were obtained for I and three other analogous cyclometalated arylpyridine Ir complexes. Nearly all the arylpyridine Ir complexes exhibited fully reversible redn. and oxidn. waves.

58861-53-3, 2-(4-Fluorophenyl)pyridine 370878-58-3, 5-(Trifluoromethyl)-2-(4-fluorophenyl)pyridine (cyclometalation with aq. iridium chloride)

RN 58861-53-3 HCAPLUS

ΙT

CN Pyridine, 2-(4-fluorophenyl)- (9CI) (CA INDEX NAME)

RN 370878-58-3 HCAPLUS

CN Pyridine, 2-(4-fluorophenyl)-5-(trifluoromethyl)- (9CI) (CA INDEX NAME)

L22 ANSWER 37 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:237969 DN 136:286688 ED Entered STN: 28 Mar 2002

TI Electroluminescent display device with high brightness and efficiency comprising metal coordination compound

IN Takiguchi, Takao; Mizutani, Hidemasa; Okada, Shinjiro; Tsuboyama, Akira; Miura, Seishi; Moriyama, Takashi; Igawa, Satoshi; Kamatani, Jun; Furugori, Manabu

PA Canon Kabushiki Kaisha, Japan

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PΙ	EP 1191613	A2	20020327	EP 2001-122938	20010925
	EP 1191613	A3	20020717		
	JP 2003146996	A2	20030521	JP 2001-284599	20010919
	US 2002064681	A1	20020530	US 2001-961075	20010924
	US 6815091	B2	20041109		
	US 2005014025	A1	20050120	US 2004-912128	20040806
PRAI	JP 2000-292492	A	20000926		
	JP 2000-292493	A	20000926		
	JP 2000-358741	A	20001127		
	JP 2000-358742	A	20001127		
	JP 2001-255537	Α	20010827		
	JP 2001-284599	Α	20010919		
	US 2001-961075 .	A3	20010924		
os	MARPAT 136:286688		• • •		

$$\begin{array}{c|c}
x^2 \\
x^3 \\
x^4 \\
x^5 \\
x^8 \\
x^7
\end{array}$$

Ι

Al luminescence device is principally constituted by a pair of electrodes and an org. compd. layer disposed between. The layer contains a metal coordination compd. represented by the formula I (M = Ir, Rh, Pd; n = 2, 3; X1-X8 = halogen, nitro, trifluoromethyl, C1-8-trialkylsilyl, C2-20-alkyl capable of including one or two non-neighboring methylene groups which can be replaced with -O-, -S-, -CO-, -CO-O-, -O-CO-, -CH=CH-, -C.tplbond.C- and capable of including hydrogen atom which can be replaced with fluorine atom; with the proviso that at least one of X1 to X8 is a substituent other than hydrogen atom, and X2 and X3 cannot be fluorine atom at the same time). The object of the present invention is to provide an electroluminescence device capable of providing a high-efficiency luminescent state at a high brightness (or luminance) for a long period while minimizing the deterioration in luminescence in energized state.

IT 391604-55-OP 405888-54-2P

(in synthesis of metal coordination compd.)

RN 391604-55-0 HCAPLUS

CN Pyridine, 2-(2,4-difluorophenyl)- (9CI) (CA INDEX NAME)

RN 405888-54-2 HCAPLUS

CN Pyridine, 2-[4-fluoro-3-(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)

L22 ANSWER 36 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

2002:268568 HCAPLUS AN

136:310035 DN

Entered STN: 10 Apr 2002 ED

Preparation of ortho-metalated iridium complexes or their ΤI tautomers

Kimura, Keizo; Igarashi, Tatsuya IN

PA Fuji Photo Film Co., Ltd., Japan

PATENT NO. KIND DATE APPLICATION NO. DATE \_\_\_\_ JP 2002105055 A2 20020410 JP 2000-298529 20000929 PΙ 20000929

PRAI JP 2000-298529

MARPAT 136:310035 OS

Ir complexes I [Z11, Z12, Z21, Z22 = nonmetallic at. group required to form a 5-6-membered (un)substituted (condensed) ring; L1, L2 = direct bond, divalent group; Y1, Y2 = N, C; if Y1 = N, then Q1 = direct bond; if Y1 = C, then Q1 = double bond; if Y2 = N, then Q2 = direct bond; if Y2 =C, then Q2 = double bond] or their tautomers, useful as electroluminescent materials (no data), are prepd. from Ir compds. II (Z11, Z12, L1, Y1, Q1 = same as above; R1, R3 = aliph. group, aryl, heterocyclyl; R2 = H, substituent; R1 and R2 or R2 and R3 may be bonded together to form a ring) or their tautomers. II or their tautomers are prepd. by hexahaloiridate(III) salts or hexahaloiridate(IV) salts via diiridium complexes III (X = halo; Z11, Z12, Q1, L1 = same as above) or their tautomers. A mixt. of K3IrCl6, 2-phenylpyridine, and glycerol was stirred at 180.degree. for 2 h to give diiridium complex. MeOH soln. of NaOMe was added dropwise to a mixt. of the complex, AcCH2COMe, and CHCl3 at room temp. over 20 min and the reaction mixt. was further stirred at room temp. for 5 h to give II (R1 = R3 = Me, R2 = H, CQ1Y1Z11 = benzene ring; L1 = direct bond, Z12 makes a pyridine ring together with N). This acetylacetonato complex was further treated with 2-phenylpyridine in glycerin at 170.degree. for 2 h to give tris(2-phenylpyridine) iridium.

IT **58861-53-3**, 2-(4-Fluorophenyl)pyridine

(prepn. of ortho-metalated iridium(III) complexes for electroluminescent devices)

RN 58861-53-3 HCAPLUS

CN Pyridine, 2-(4-fluorophenyl)- (9CI) (CA INDEX NAME)

L22 ANSWER 32 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:636629 HCAPLUS

DN 137:192523

ED Entered STN: 23 Aug 2002

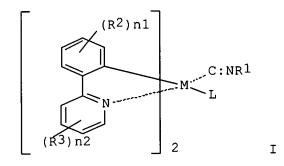
 ${\tt TI}$  Transition metal-isonitrile complex luminescent materials and luminescent element using them

IN Igarashi, Tatsuya

PA Fuji Photo Film Co., Ltd., Japan

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	JP 2002235076	A2	20020823	JP 2001-33684	20010209	
PRAI	JP 2001-33684		20010209			

OS MARPAT 137:192523



The luminescent materials are transition metal complexes which include an isonitrile ligand and Ir, Ru, or Rh. The luminescent element contains the transition metal complexes in .gtoreq.1 of light-emitting layer and/or org. compd. layer. The luminescent element has high brightness and durability. Transition metal complexes represented by I (M = Ir, Ru, or Rh; R1-3 = substituent; L = monovalent ligand; n1, n2 = 0-4) are also claimed.

7188-38-7, tert-Butyl isonitrile 14024-41-0, Potassium iridium chloride (K3IrCl6) 58861-53-3, 2-(4-Fluorophenyl)pyridine

RL: RCT (Reactant); RACT (Reactant or reagent)

(transition metal-isonitrile complex luminescent material for luminescent element with high brightness and durability)

IT 58861-53-3, 2-(4-Fluorophenyl)pyridine

RL: RCT (Reactant); RACT (Reactant or reagent)

(transition metal-isonitrile complex luminescent material for luminescent element with high brightness and durability)

RN 58861-53-3 HCAPLUS

CN Pyridine, 2-(4-fluorophenyl)- (9CI) (CA INDEX NAME)

Sheet 1 of 5

[0025]

÷

$$(7)$$

$$1 1$$

$$(1-16)$$

$$C = N - C_4H_9(f)$$

$$C = S - C_4H_9(f)$$

$$C = N - C_4H_9(f)$$

$$C =$$

[0026]

$$\begin{array}{c} 1 \ 3 \\ (1.21) \\ \hline \\ (1.22) \\ (1.22) \\ (1.22) \\ (1.23) \\ (1.23) \\ (1.24) \\ (1.24) \\ (1.24) \\ (1.25) \\ (1.24) \\ (1.25) \\ (1.26) \\ (1.29) \\ ($$

【0027】本発明で用いる遷移金属錯体は種々の手法で合成することができる。例えば、配位子又はその解離体と遷移金属化合物とを、室温以下又は加熱しながら混合して得ることができる。加熱する場合、通常の加熱以外にマイクロウェーブで加熱する手法も有効である。必要に応じて、溶媒(ハロゲン系溶媒、アルコール系溶媒、エーテル系溶媒、水等)や、塩基(無機塩基であっても有機塩基であってもよく、例えばナトリウムメトキサイド、t-ブトキシカリウム、トリエチルアミン、炭酸カリウム等)を用いてもよい。

#### 【0028】[2]発光素子

本発明の発光素子は、一対の電極(陽極及び陰極)間 着法に、発光層又は発光層を含む複数の有機化合物層を有す 含する。この発光層又は複数の有機化合物層のうち少なくと\*50 い。

\*も一層は、前述した本発明の発光素子用材料を含有する。本発明の発光素子のシステム、駆動方法、利用形態等は特に問わないが、本発明の発光素子用材料を発光材40 料又は電荷輸送材料として利用したものであるのが好ましい。代表的な発光素子として、有機EL(エレクトロルミネッセンス)素子を挙げることができる。

【0029】本発明の発光素子用材料を含有する層の形成方法は特に限定されず、抵抗加熱蒸着法、電子ビーム法、スパッタリング法、分子積層法、コーティング法、インクジェット法、印刷法、転写法等の方法が使用可能である。中でも、素子の特性及び製造面から抵抗加熱蒸着法及びコーティング法が好ましい。発光素子用材料を含有する層は塗布プロセスで成膜するのが特に好まし

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【実施例】以下、実施例により本発明をさらに詳細に説 明するが、本発明はそれらに限定されるものではない。 【0045】 比較例1

40mgのポリ(N-ビニルカルバゾール)、12mgのPBD (2-(4-ピフェニル)-5-(4-t-ブチルフェニル)-1,3,4-オキサジ アゾール)、及び 1 mgの下記化合物Aを2.5mlのジクロロ エタンに溶解し、得られた溶液を洗浄した基板上にスピ ンコート (1500rpm、20sec) して有機層を形成した。得 られた有機層の膜厚は98nmであった。次に得られた有機 層上に発光面積が4m×5mとなるようにパターニング 10 したマスクを設置し、蒸着装置内でマグネシウム及び銀 (マグネシウム:銀=10:1 (モル比))を50nm共蒸着 し、更に銀を50nm蒸着して、比較例1の発光素子を作成 した。得られた発光素子に、東陽テクニカ製「ソースメ ジャーユニット2400型」を用いて直流定電圧を印加して 発光させ、その発光輝度をトプコン社製「輝度計BM-8」\*

\*を用いて測定した。その結果、緑色発光が得られ、最高 輝度は3300cd/m²であり、最低駆動電圧(発光が得られ る駆動電圧の最低値)は11Vであった。また発光素子を 大気下に1日放置し再度測定したところ、最高輝度は41 0cd/m<sup>2</sup>であった。

[0046] 【化10】

### 化合物A



【0047】実施例1

以下のように遷移金属錯体(1-2)を合成した。

【化11】

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3.5gの2-(4-フルオロフェニル)-ピリジン及び 5gのK3 Ir Cl6 に、50mlの2-メトキシエタノール及び30mlの水を加 え、還流下撹拌した。6時間撹拌した後、室温に冷却 し、析出した黄色固体をろ別して3.4gの化合物aを得 た。続いて0.2gの化合物aに20mlのクロロホルムを加 え、更に0.06mlのt-G HoNCを加えた。この溶液を還流下 で4時間撹拌し、室温に冷却した。これをシリカゲルカ 30 とができた。 ラムクロマトグラフィー(展開溶媒:クロロホルム)で 精製した後、クロロホルム/ヘキサン系で再結晶し、0. 1gの遷移金属錯体(1-2)を得た。FAB-MSスペクトル (pos i 655, 620, 572, 535) により錯体(1-2)の生成を確認 した。

【0048】化合物Aに替えて上記のように得た遷移金 属錯体(1-2)を用いたこと以外は上記比較例1と同様 に、実施例1の発光素子を作成した。得られた発光素子 の発光輝度を上記比較例1と同様に測定した結果、青緑 色発光が得られ、最高輝度は3500cd/m²であり、最低駆 動電圧は10Vであった。また発光素子を大気下に1日放 置し再度測定したところ、最高輝度は3000cd/m²であっ た。

#### 【0049】実施例2

化合物Aに替えて遷移金属錯体(1-23)を用い、上記比較 ※

※例1と同様に発光素子を作成したところ、高輝度、高耐 久性の赤色発光素子を得ることができた。

#### 【0050】実施例3

1 mgの化合物Aに替えて遷移金属錯体(1-1)及び(1-25)の 混合物を用い、上記比較例1と同様に発光素子を作成し たところ、高輝度、高耐久性の青緑色発光素子を得るこ

#### 【0051】<u>実施例4</u>

洗浄したITO基板を蒸着装置に入れ、TPD(N,N'-ジフェ ニル-N, N'-ジ(m-トリル)-ベンジジン)を40nm蒸着し、 この上に下記化合物Bと遷移金属錯体(1-2)を9対1の比 率 (質量比)で20mm共蒸着し、更にこの上に下記アゾー ル化合物Cを40nm蒸着して有機薄膜を形成した。次に得 られた有機薄膜上に発光面積が4m×5mとなるように パターニングしたマスクを設置し、蒸着装置内でマグネ シウム及び銀(マグネシウム:銀=10:1(質量比)) 40 を50nm共蒸着し、更に銀を50nm蒸着して、実施例4の発 光素子を作成した。得られた発光素子の発光輝度を上記 比較例1と同様に測定した結果、青緑色発光が得られ、 最高輝度は2400cd/m<sup>2</sup>であった。

[0052]

【化12】

L22 ANSWER 34 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:429288 HCAPLUS

DN 137:26192

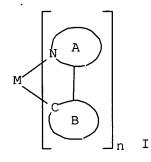
ED Entered STN: 07 Jun 2002

TI Electroluminescent element and electroluminescent display device having the same

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PA Canon Kabushiki Kaisha, Japan

	oution thankoning the transfer of the transfer							
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE			
ΡI	WO 2002045466	A1	20020606	WO 2001-JP10477	20011130			
	AU 2002022565	A5	20020611	AU 2002-22565	20011130			
	EP 1349435	A1	20031001	EP 2001-999132	20011130			
	US 2003059646	A1	20030327	US 2002-73011	20020212			
PRAI	JP 2000-364650	Α	20001130					
	JP 2001-64203	Α	20010308					
	JP 2000-364350	Α	20001130					
	WO 2001-JP10477	W	20011130					
os	MARPAT 137:26192							



The invention relates to a luminescent element having a cathode, an anode, and one or a plurality of layers of org. thin films which is arranged between them, characterized in that at least one of the layers is a light emitting layer which comprises a luminescent mol. of a metal coordination compd. having a basic structure represented by the following general formula I (A, B = ring group residue; M = IR, Pt, Rh, Pd) and having a substituent on at least one of cyclic groups A and B as a guest in a host material at an concn. which is 8 wt. % or greater and is greater than a concn. at which a luminescent mol. of a compd. having a structure analogous to the above and free of the substituent exhibits the max. luminous efficiency. The luminescent element is less susceptible to extinction by concn. even when used at a high concn. in a host material and thus exhibits high efficiency.

#### IT 58861-53-3P

(electroluminescent element and electroluminescent display device having same)

RN 58861-53-3 HCAPLUS

CN Pyridine, 2-(4-fluorophenyl)- (9CI) (CA INDEX NAME)

L22 ANSWER 35 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:294029 HCAPLUS

DN 136:316681

ED Entered STN: 19 Apr 2002

TI Polymers having attached luminescent metal complexes and devices made with such polymers

IN Periyasamy, Mookkan; Grushin, Vladimir; Petrov, Viacheslav A.; Herron, Norman; Radu, Nora Sabina

PA E. I. Du Pont de Nemours & Co., USA

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002031896	A2	20020418	WO 2001-US31449	20011009
WO 2002031896	A3	20030904		
CA 2423886	AA	20020418	CA 2001-2423886	20011009
AU 2002015322	A5	20020422	AU 2002-15322	20011009
EP 1364419	A2	20031126	EP 2001-983933	20011009
JP 2004531850	T2	20041014	JP 2002-535182	20011009
US 2000-238974P	P	20001010		
WO 2001-US31449	W	20011009		
	PATENT NO	PATENT NO. KIND	WO 2002031896 A2 20020418 WO 2002031896 A3 20030904 CA 2423886 AA 20020418 AU 2002015322 A5 20020422 EP 1364419 A2 20031126 JP 2004531850 T2 20041014 US 2000-238974P P 20001010	PATENT NO. KIND DATE APPLICATION NO.  WO 2002031896 A2 20020418 WO 2001-US31449 WO 2002031896 A3 20030904 CA 2423886 AA 20020418 CA 2001-2423886 AU 2002015322 A5 20020422 AU 2002-15322 EP 1364419 A2 20031126 EP 2001-983933 JP 2004531850 T2 20041014 JP 2002-535182 US 2000-238974P P 20001010

OS MARPAT 136:316681

AB Org. electronic devices are described which comprise an emitting layer which comprises .gtoreq.1 functionalized polymer having a plurality of first-type functional groups, at least a portion of the functional groups being coordinated to .gtoreq.1 metal or metal-contg. complex, or in which the groups have a charge and are assocd. with .gtoreq.1 metal complex having an opposite charge. The emitting layers may also include org. charge transport materials. Selected polymer-metal complexes and salts are also described.

IT 7439-88-5D, Iridium, compds., reaction products with polymers

(metal-polymer complexes and salts and devices employing them)

RN 7439-88-5 HCAPLUS

CN Iridium (8CI, 9CI) (CA INDEX NAME)

Ιr

#### IT 370878-58-3P

(metal-polymer complexes and salts and devices employing them)

RN 370878-58-3 HCAPLUS

CN Pyridine, 2-(4-fluorophenyl)-5-(trifluoromethyl)- (9CI) (CA INDEX NAME)